DOCUMENT RESUME

ED 126 327 CE 007 460

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TITLE Process and Content Orientations in Vocational Evaluation Programs.
INSTITUTION Wisconsin Univ.-Stout, Menomonie. Stout Vocational Rehabilitation Inst.
SPONS AGENCY Rehabilitation Services Administration (DHEW), Washington, D.C.
PUB DATE Dec 75
GRANT 16-P-56821/5
NOTE 21p.; Prepared by the Research and Training Center

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Data Collection; Employment Opportunities; *Evaluation Methods; Individual Characteristics; Information Processing; Occupational Clusters; Orientation; Participant Characteristics; Program Development; *Program Evaluation; Program Planning; *Vocational Education

ABSTRACT

The actual operation of vocational evaluation programs appears to be guided by orientations toward process and content. Two dominant process orientations, information gathering and information processing, can be identified, as can three content orientations: individual characteristics, specific jobs, and occupational clusters. The process and content orientations have a number of implications for vocational evaluation program planning, development, and evaluation. (Author/BP)

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ED126327

INTERFACE NUMBER 2

PROCESS AND CONTENT ORIENTATIONS IN VOCATIONAL EVALUATION PROGRAMS

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December, 1975

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CE007460

The staff of the Research and Training Center, University of Wisconsin-Stout, Menomonie, Wisconsin, wish to gratefully acknowledge the partial support for this project provided by Grant No. 16-P-56871/5 from the Rehabilitation Services Administration, Office of Human Development, Department of Health, Education and Welfare, Washington, D.C.

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Vocational evaluation is a newly emerging area of specialization within vocational rehabilitation and manpower development programs. In common with any new specialty, considerable attention has been focused upon the problems of definition and description in order to clarify the scope and subject matter of the specialty. These efforts have led to the identification of a number of similarities among vocational evaluation programs. Those which have been identified include the use of real or simulated work as the basic modality of vocational evaluation (Institute on Rehabilitation Services, 1972); the belief among evaluators that the best way to determine whether people can function in a job situation is to observe what happens when they are provided with an opportunity to perform in the situation (Wernimont and Campbell, 1968); and several widely held "basic assumptions" underlying the practice of vocational evaluation (Pruitt, 1970). This knowledge is useful in establishing the broad parameters of vocational evaluation services. However, these similarities do not account for the obvious differences between vocational evaluation programs which are apparent even to casual observers. A means of accounting for these operational differences is needed.

The purpose of this paper is to present a way of describing vocational evaluation programs in terms of their underlying orientations toward the process and content of vocational evaluation. There are two basic concepts underlying this approach. First, it is assumed that the purpose of vocational evaluation is to provide information necessary to resolve vocational decision making problems. That is, individuals are typically referred to vocational evaluation from agencies and programs within the human service delivery system when information relative to the establishment of individual goals and a plan of services to attain these goals is lacking and cannot be obtained by other means (Dunn, et al., 1975; Korn, 1975). Second, vocational evaluation programs can differ in their approaches to this information problem. Specifically, they can differ in terms of *process* (i.e., in the way in which information generated during the course of evaluation is handled) as well as *content* (i.e., in the subject matter or topic of the information).

In the remainder of this paper, some of the existing orientations toward the process and content of vocational evaluation are described. The ways in which these orientations can be combined to form particular approaches to vocational evaluation are also described, along with their implications for program planning, development, and evaluation.

Process Orientations

The *process* of a vocational evaluation program refers to the way in which information generated during the course of evaluation is handled within the program. Two primary orientations toward process can be identified: information gathering and information processing.

Information Gathering

In this orientation, information necessary for vocational decisions is gathered and communicated to others outside of the evaluation program by the vocational evaluator. The evaluation process is clinical in nature and evaluators play a consultative role basically restricted to the collection of information related to the vocational performance and behavior of evaluees. Although evaluators may be expected to analyze their observations to arrive at vocational recommendations, it is not uncommon to find that evaluators functioning within information gathering oriented programs do not have access to the full array of available evaluee information which can affect the accuracy and meaningfulness of these recommendations.

The information gathering orientation commonly does not emphasize or use evaluator-evaluee interaction beyond that necessary to develop and maintain an acceptable level of evaluee performance during the program. Such things as provision of immediate knowledge of results and discussing the implications of evaluee performance and behavior during the course of the program are often rejected on the grounds that these may unduly influence performance on subsequent tasks. Additionally, these "counseling" activities are often regarded as being outside of the role and duties of evalutors.

The benefits of evaluation conducted within the information gathering orientation depend upon the accuracy and depth of the information

obtained, and the utility of this information in subsequent vocational decision making and service planning. Beyond this generic goal of providing accurate and detailed vocational information to referring sources and others for use in vocational decision making and planning, vocational evaluation is not seen as having direct benefits, particularly in producing change in evaluees served by the program.

Information Processing

This orientation views the vocational evaluation process as a learning and developmental experience in which evaluees can overcome deficits in occupational knowledge, self awareness, decision making, and planning. In contrast to the role of the evaluator in the information gathering orientation, evaluators operating within the information processing orientation have an active teaching-counseling role in which: (a) evaluees are provided with concrete occupational tasks to enable them to gain information about the occupations sampled; (b) evaluees are provided with immediate knowledge of results to enable them to gain self knowledge of their vocational capabilities and deficits; and (c) evaluees are provided with a facilitative relationship within which decisions can be made and their consequences tested without incurring the punitive effects of failure. The information processing orientation enables the evaluee to learn effective ways of processing vocational information acquired through direct experience.

The benefits of vocational evaluation conducted under this orientation are two-fold. First, since the information gathered during the course of evaluation is very similar to that obtained in information gathering oriented programs, there are benefits to be derived from its use in subsequent service planning. Second, evaluees themselves derive direct benefits from evaluation, particularly in the areas of increased self and occupational knowledge and decision making skills. These increases can be directly measured and should have a sustained benefit on the vocational development and maturity of evaluees.

Comment

The basic difference between the two process orientations is largely a matter of the extent to which the use of occupational

information, provision of feedback, and vocational counseling are integral parts of the program. The presence or absence of these components depends upon the needs and problems of individual evaluees and specific target groups, the needs, preferences and customs of referral sources and agencies, the beliefs and values of those operating the program, as well as the skills and abilities of the evaluators themselves.

In an ideal world, the adoption of a particular process orientation would depend almost exclusively upon the needs of persons served by the program. However, in the real world, consideration has to be given to the influence of external agencies and individuals who control the flow of evaluees into the program, and to the beliefs and values of those operating the program. For example, the state-federal vocational rehabilitation and employment programs are staffed by counselors who customarily analyze and synthesize assessment data and use it with their clients. They may tend to regard an information processing oriented vocational evaluation program as usurping or impinging upon their profession role. By contrast, an information processing orientation is congruent with career development based educational programs, and would be readily accepted by them.

The beliefs and skills of vocational evaluators tend to follow trends which influence choice of process orientations. Evaluation programs in the early 1960's often regarded vocational evaluation as an extension of the counseling process but, by the late 1960's, the trend shifted toward the clinically oriented information gathering approach. Currently, there is an emerging trend toward emphasizing the counseling component in evaluation (Hutchison, et al., 1975).

The three way interaction of evaluee needs, referral source customs, and evaluator beliefs and skills in the choice of an evaluation process orientation probably produced compromises. Consequently, it is likely that individual evaluation programs may use both process orientations and vary their approach according to the needs of specific target groups referred by particular sources.

Content Orientations

The *content* orientation of a vocational evaluation program reflects the subject matter or topic of the information generated and/or processed during evaluation. There are three dominant orientations toward content: individual characteristics, specific jobs, and occupational clusters. Content is closely tied to the specific technologies employed in vocational evaluation. Consequently, reference will be made to some of the common vocational evaluation technologies in the following discussion.

Individual Characteristics

The information provided by programs with an individual characteristics orientation emphasizes those basic underlying characteristics of individuals (such as aptitudes, abilities, and temperaments) which are also required for successful performance of most occupations. Individuals are assessed in terms of these characteristics and their scores or profiles compared to the requirements of occupations to identify those occupations whose requirements best match individual characteristics. This is, of course, the "man-job matching" approach which has dominated vocational counseling and testing for well over half a century.

The individual characteristics orientation is so widespread that it is difficult to find a vocational evaluation program or a vocational evaluator without some traces of it. The primary advantage of this orientation is its economy. At least in theory, assessment of an individual's level of functioning on a relatively small number of characteristics allows comparisons to the requirements of a substantial number of occupations to be made. For example, if evaluees are assessed in relation to the six major classes of worker characteristics identified in the *Dictionary of Occupational Titles* (U. S. Department of Labor, 1965), their profiles can be compared to the requirements of over 21,000 occupations, and those which offer the best possibilities of success identified.

Several of the available work sample batteries, including the JEVS, McCarron-Dial, Talent Assessment Program, and VALPAR batteries, have

been developed using an individual characteristics approach, as have most standardized tests such as the General Aptitude Test Battery. Standardized psychometrics are often deprecated by vocational evaluators, but this seems to be rooted more in a rejection of a "paper and pencil" approach to assessment than in a rejection of the underlying trait and factor premises used in test development. Work samples developed to assess individual characteristics are adopted without question, although psychometrics assessing the same characteristics are rejected. However, "paper and pencil" measures of certain characteristics are adopted and used by vocational evaluation programs when there is no convenient alternative way of obtaining information about these characteristics, such as intelligence, literacy, temperaments, and needs.

Specific Jobs

The information content of this orientation relates to specific jobs or training opportunities found in the local area. Emphasis is placed upon the use of job analysis to develop "actual job" samples which use the actual tools, equipment, and materials, as well as the production and quality standards, found in the specific target job in business and industry (Experimental Manpower Laboratory, 1970).

This orientation is fairly widespread in vocational evaluation. For example, the TOWER system (Institute for Crippled and Disabled, 1967) is structured around jobs and training opportunities in New York City. Similarly, many vocational evaluation programs use job stations within the facility or institution, as well as outside job sites, for evaluation purposes. This is a type of specific job evaluation, although it is commonly termed "situational assessment" or "job try-out"

The primary benefit of this orientation is that it most closely approximates the widely held belief that the best way to tell whether or not people can do a job is to place them into the job and see if they can do it (Wernimont and Campbell, 1968). Since the actual job (or a close simulation of it) and its related performance standards are used as criteria, this orientation is thought to produce the best information about probabilities of success in specific job or training placements.

Occupational Clusters

The information content of this orientation related to broad clusters of specific jobs and occupations grouped together on the basis of certain common factors, such as subject matter, products, work fields, materials, or industries. The assumption underlying the occupational clusters approach is similar to that of the individual characteristics approach. However, rather than focusing upon characteristics of individuals, the occupational clusters orientation focuses upon the work tasks commonly performed in groups of jobs and occupations. These commonly performed work tasks are identified for specific occupational clusters and methods for assessing performance of these tasks developed for the vocational evaluation program.

Two occupational clustering systems have received substantial use in vocational evaluation programs. The system used in the *Dictionary of Occupational Titles* clusters occupations on the basis of a three digit code. The first digit designates one of ten major occupational categories, while the second and third digits provide an increasingly detailed and specific grouping. The Singer vocational evaluation system, for example, is based on two digit occupational divisions from the *Dictionary of Occupational Titles*.

A second major occupational clustering system is the Office of Education System. This system groups occupations into one of fifteen major clusters based on the similarity of subject matter or knowledge content. The Office of Education classification system is not as highly developed or consistent as that used in the *Dictionary of Occupational Titles* and the detailed information about specific jobs and occupations within clusters available in the latter is lacking. However, the subject matter-knowledge base of the system lends itself to education and training applications. Additionally, a substantial number of audio-visual occupational information resources based on the Office of Education occupational clusters have been developed which can be used in vocational evaluation programs.

Other occupational clustering systems have been developed but have not as yet received any substantial application in vocational

evaluation. The Bureau of the Census occupation classification system and the industry-occupation matrix of the Bureau of Labor Statistics are two for which an extensive amount of information about the characteristics and earnings of workers are available, but thus far are unexplored in terms of their potential utility to vocational evaluation programs.

The occupational cluster orientation is not as widely used as either of the other two content orientations. However, recommendations relating to broad clusters of occupations, such as clerical or food service work, are often encountered in practice, suggesting that it is used by evaluators. The primary advantages of these orientations are that it takes into account that: (a) individuals are multipotentialed and can be successful in a number of specific jobs and occupations (Super, 1957) and (b) the depth or specificity of the vocational decisions to be made subsequent to vocational evaluation services varies depending upon the age and stage of vocational development of the evaluees (Crites, 1969; Korn, 1975; Super, 1957). The occupational cluster orientation is probably most appropriate in vocational evaluation programs which deal with adolescents or individuals with delayed or impaired vocational development who require a remedial or compensatory experience (LoCascio, 1964).

Comment

The adoption of a particular content orientation can be influenced by external sources, as was the case with the process orientations. The widespread belief in the individual characteristics approach among persons in human services creates a natural predilection in its favor. Additionally, as was suggested in the description of the occupational clusters orientation, the adoption of particular content orientations depends in part upon the nature of the vocational decisions to be made subsequent to vocational evaluation. These decisions can vary depending upon the characteristics and needs of persons served within the program. In general, however, younger individuals who are in school or in the school to work transition make career decisions related to occupational clusters, while older individuals make

decisions related to specific jobs. Knowledge of individual characteristics, particularly changes in characteristics which may have occurred subsequent to acquired disability, is often useful information for vocational decision making. Consequently, an evaluation program which serves a homogeneous target population may be characterized by a single content orientation while one which serves a heterogeneous target population made up of several distinct groups, considering age, disability, vocational maturity, and expected outcomes, may use all of the content orientations.

Although content orientations are dependent upon the hardware available in the program, there are software modifications which can be made to allow the same hardware to be used for all of the content orientations. An example of possible software modifications is provided by the General Aptitude Test Battery (U. S. Department of Labor, 1970). The GATB provides an assessment of individual characteristics, specifically nine aptitudes. However, Occupational Aptitude Profiles for small clusters of occupations can be developed using established cutting scores on certain combinations of aptitudes for each of these clusters. Similarly, through the use of established combinations of individual subtests from the GATB, Specific Aptitude Test Batteries (SATB's) can be developed to assess individuals in relation to specific jobs. This use of different norms and subtests provides considerable flexibility in the use of the GATB to meet different information content needs. This flexibility has not been equalled to date in existing, available vocational evaluation materials.

Implications for Program Planning, Development, and Evaluation

The discrete process and content orientations have a number of implications for vocational evaluation program planning, development, and evaluation which are discussed in this section.

Program Planning

A program is made up of both process and content, so that two process and three content orientations can be combined to form the six

basic types of vocational evaluation programs shown in Table 1. In other words, at an operational level, it is more accurate to describe a vocational evaluation program in terms of its specific process-content orientation or orientations, than to merely state it is "vocational evaluation".

Table 1. Basic Types of Vocational Evaluation Programs

Process Orientation	Content Orientation		
	Individual Characteristics	Specific Job	Occupational Cluster
Information Gathering			
Information Processing			

The adoption of any process-content approach is influenced by three sources: clients, referral sources, and staff. A program may use several approaches, depending upon the way these factors interact with different subgroups of evaluees. For example, an information gathering-specific job approach might be used with state rehabilitation agency referrals who have prior work experience; an information processing-individual characteristics approach used with hospital referrals having newly acquired physical disabilities; and an information processing-occupational clusters approach used with in-school adolescents referred by educational institutions. In fact, the primary limitations upon the diversity of specific approaches which could be used within a vocational evaluation program stem from the capabilities of staff to accomodate to the requirements of specific approaches and the availability of resources to support each approach. These limitations are discussed in more detail in the next section.

It is apparent that a considerable amount of flexibility is available to program planners. Rather than attempting to pursue the will of the wisp single, "correct" way to evaluate all clients, attention should be given to developing programs which are accomodated to

the needs and characteristics of specific subgroups of evaluees from particular referral sources. This approach requires that planners obtain information about the operations and expectations of referring sources, as well as information about the needs and characteristics of evaluees they typically refer. Although the information about referral sources can generally be obtained without too much difficulty, agency record keeping systems commonly do not contain the systematic and detailed information about individual characteristics which is necessary for accurate program planning. The best approach in this situation is to begin operating the vocational evaluation program on a "best guess" basis and modify or fine tune it later as the necessary evaluee data become available (usually from program rather than referral source records).

Program Development

The capacity of staff to accomodate to the requirements of specific approaches and the availability of material resources necessary to support these approaches set limits upon the extent to which various process-content orientations can be successfully used with a program. These limitations can be overcome through active program development.

It is usually a straightforward matter to recruit, and/or train staff who can use the information gathering-individual characteristics and information processing-occupational clusters orientations. These two correspond closely to approaches commonly taught in psychology, counseling, and vocational evaluation programs so that individuals familiar with them can be directly recruited, or needed training obtained within the local area. In-service and on-the-job training may have to be provided to develop staff abilities to use other approaches.

An unanswered question in the area of staff development is the extent to which individual staff members can shift gears and successfully use a variety of approaches. This may not be a problem in larger vocational evaluation programs which can afford the luxury of

"specialist" evaluators who use only one or possibly two distinct approaches to evaluation. It can be a problem in smaller programs where there are only one or two evaluation staff. These individuals may not be able to accomodate to the different requirements of each approach, even with training. Consequently, smaller programs may have to specialize in only those distinct approaches to evaluation which can be successfully used by the staff, and would screen and accept only those referrals who would benefit from the approach used in the program.

The second aspect of program development has to do with the material resources and technology necessary to support the program. This includes both hardware, such as work samples, job stations, and other materials, and software, such as the delivery systems for specific services.

There is a considerable amount of proprietary hardware available which can be used in vocational evaluation programs. This material is commonly usable in programs with specific process-content orientations, as is indicated in Table 2. It is evident that most of the available work sample systems fit into the information processing-individual characteristics approach. This seems to reflect a widespread assumption that vocational evaluation is an alternative method of psychometric assessment for certain segments of disabled and disadvantaged target populations. It can be observed that those materials which are most widely used in educational programs, such as the Singer system, Project Discovery, and occupational information materials, fit within the information processing-occupational clusters approach. This goes along with the exploratory, career development thrust of contemporary educational programming.

There is an obvious lack of materials suitable for use with some of the process-content orientations, suggesting that evaluation programs which adopt these approaches will have to engage in extensive developmental activity before they become fully operational. Materials development activities for these orientations include gathering detailed job analyses of positions in the local economy, creation of new work samples or use of community job stations, development of additional norms for existing materials, and production of local

occupational information resources. Delivery system development might include the addition of feedback and knowledge of results procedures, integration of occupational information into the evaluation process, and development of alternative reporting procedures.

Table 2. Primary Process and Content Orientations of Selected Proprietary Vocational Evaluation Systems and Materials

Process Orientation	Content Orientation		
	Individual Characteristics	Specific Jobs	Occupational Clusters
Information Gathering	JEVS McCarron-Dial Psychometric Tests Talent Assessment Program VALPAR		WREST
Information Processing	Occupational Exploration Kit	Job Experience Kits Print & non-print occupational information Project Discovery TOWER	Print & non-print occupational information Project Discovery Singer

Program Evaluation

This is an increasingly important component in vocational evaluation programming. Identification of specific approaches to vocational evaluation, stated in terms of process and content orientations, which are used with evaluees is a valuable aid in program evaluation.

Each specific approach to vocational evaluation has a unique set of goals and objectives, as well as methods of measuring goal attainment and benefits. In other words, a content orientation provides a broad statement of purpose (information gathering or processing) from which increasingly specific goals and objectives can be derived. A content orientation, indicating the nature of the information dealt

with, clarifies and makes more specific the goals and objectives derived from a process orientation. Consequently, knowledge of the process and content approach used with a particular program or with a particular subgroup of evaluees within a program aids in the conceptualization and development of a program evaluation procedure.

The process and content orientations are also useful in operationalizing a program evaluation system. At this level, a process orientation indicates who obtains the primary benefits from evaluation referral sources (in the case of the information gathering orientation) or evaluees (in the information processing orientation). Thus, process orientation identifies the source of program evaluation data. Content orientation specifies the specific data to be obtained from the source: indications of changes, increases, or decision making relative to individual characteristics, specific jobs, or occupational clusters. In other words, the content orientation indicates what has to be measured while the process orientation indicates who does the measuring.

These applications of the process and content orientations are basic and straightforward. However, they also serve to illuminate some practical problems in the evaluation of vocational evaluation programs.

First, it it unlikely that a single generic approach to program evaluation could be developed which would be an accurate indicator of the overall effectiveness of a program, or which would allow comparisons between programs to be made. It has already been noted that it would be unusual to find a program which uses a single process-content approach; rather there would be different approaches used depending upon the nature of target groups, referral sources, and staff. Since each approach has a relatively unique program evaluation procedure attached to it, these separate procedures must be used with those evaluees and/or referral sources who receive a specific approach. In other words, an attempt to aggregate all individuals who received evaluation services without controlling for the type of evaluation services received can result in important benefits being missed. Also,

significant unique benefits obtained by a small number of persons who receive a particular type of evaluation can be buried in the midst of data obtained from a larger number of persons who received other types of evaluation services.

This problem is important to consider at the facility level, but it also arises in program evaluations conducted by referral agencies at the district, state, and national levels. The detailed knowledge of evaluation approaches used by local individual facilities is often lacking among referral agency program evaluators and it is easy for them to make the assumption that "a vocational evaluation is a vocational evaluation is a vocational evaluation". The result is a generic program evaluation procedure blindly applied across all facilities without consideration for the specific approaches used by individual facilities. Again, the problem is that specific benefits for a small number of persons who receive a particular type of evaluation can be overlooked or lost in a mass of data from individuals who receive other types or evaluation services. The temptation to compare programs to one another to determine "the most effective" is great, but it can be completely misleading unless the process-content orientations toward vocational evaluation are equated before the comparison is made.

There is an additional problem with both the information gathering-process orientation and the individual characteristics-content orientation which can be mentioned. Program evaluation can document increases in information, changes, or the availability of previously unknown information for these two orientations. However, there are no practical and economical techniques for measuring the utility of this information in decision making and service planning. Some approaches to utility measurement have been suggested (c.f. Cronback and Gleser, 1965; Lee, 1971) but these require extensive data and have been applied only in restricted research situations. The inability of vocational evaluation programs using these two orientations to demonstrate the utility of the new, additional, or otherwise unavailable information they generate is a definite problem in an era of accountability. It is important to recognize that the same problem arises with other

services, for example medical examinations and psychological testing. In the latter two cases, however, the utility of the information gained is taken for granted and physicians and psychologists are not required to evaluate the effects of their services by measuring utility. It will be interesting to see if vocational evaluation services are accorded the same treatment.

Summary

Although there are some broad general assumptions, beliefs, and practices underlying the delivery of vocational evaluation services, the actual operation of vocational evaluation programs appears to be guided by orientations toward program process and content. A knowledge of these process and content orientations explains some of the apparent diversity among existing vocational evaluation programs and has implications for program planning, development, and evaluation.

Two dominant process orientations, information gathering and information processing, can be identified, as can three content orientations, individual characteristics, specific jobs, and occupational clusters. Since a program consists of both process and content, the specific process and content orientations combine to form six basic approaches to vocational evaluation programming.

The selection of any particular approach is dependent upon several factors including the needs and problems of the target population, the needs and expectations of referring sources, and the beliefs and skills of evaluation staff. It is possible for a vocational evaluation program to be characterized by a single approach if it serves a homogeneous target group from a single referral source. However, since most programs serve several distinct target groups and multiple referral sources, they will be characterized by several approaches to evaluation. This fact has to be taken into account in program planning.

Program development has to take into account the unique delivery system and material resource needs of each approach used in the program. Staff have to be able to use each approach in the program, which has implications for recruitment and staff development.

Similarly, available material resources may have to be modified to fit particular approaches, or new materials developed to meet specific program needs.

Lastly, the process and content orientations have implications for program evaluation. Each approach has a relatively unique set of goals, objectives, information sources, and means of measurement. A generic approach to program evaluation, applied across all approaches within a program or across a number of programs used by a particular referral source, can lead to a significant loss of information regarding benefits from specific approaches. Similarly, it may lead to misleading comparisons between individual programs.

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